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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,938	12/08/2003	Sachiko Nemoto	19546.0034	8989

23517 7590 11/01/2007  
BINGHAM MCCUTCHEN LLP  
2020 K Street, N.W.  
Intellectual Property Department  
WASHINGTON, DC 20006

EXAMINER
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RIVAS, SALVADOR E

ART UNIT	PAPER NUMBER
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2619

MAIL DATE	DELIVERY MODE
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11/01/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/728,938

Applicant(s)

NEMOTO ET AL.

Examiner

Salvador E. Rivas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f):
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Drawings*

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "40a-40d" and "400a-400d " have both been used to designate the LAN switch from **Fig.8**. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. **Figures 8 and 9** should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the

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applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

4. The disclosure is objected to because of the following informalities:

a) On **page 1 line 17 of the disclosure**, replace the word "transmission system" in parenthesis with the corresponding label number "500" which appears in the drawings of Fig.8.

b) On **page 1 line 20 of the disclosure**, delete the word "VLAN" that is not in italics.

c) On **page 1 line 24 of the disclosure**, insert a square bracket "]" after "Multiplexer" in italics;

d) On **page 2 line 19 of the disclosure**, replace the number "103" with the corresponding label number "10e" which appears in the drawings of Fig.9.

e) On **page 10 line 20 of the disclosure**, replace the number "4" with the corresponding label number "44" which appears in the drawings of Fig.1.

f) On **page 11 line 5 of the disclosure**, replace the number "5d" with the corresponding label number "50d" which appears in the drawings of Fig.1.

g) On **page 15 line 5 of the disclosure**, insert the letter "c" after "53" before the words "and client";

h) On **page 15 line 5 of the disclosure**, replace the number "51a" with the corresponding label number "52b" which appears in the drawings of Fig.4.

i) On **page 20 line 13 of the disclosure**, replace "STS-c" with "STS-3c";

j) On **page 22 line 26** of the disclosure, insert the letter "d" after "17" in the drawings of Fig.4;

Appropriate correction is required.

### ***Claim Objections***

**Claim 2** is objected to because of the following informalities:

1) On **line 13** of **claim 2**, insert the letter "a" before the word "SONET"

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Regarding claims 1,2, and 4, the phrase "opposite each other" (pg 30 lines 7 and 15 - page 31 line16) and in claim 3 the phrase "oppose each other" (pg 30 line 26) renders the claims vague and indefinite. From the way the phrases "opposite each other" and "oppose each other" are applied it is not clear how the applicant concludes that an STS path will be obtained from the incoming Ethernet frames. Hence, the examiner will interpret both phrases "opposite each other" and "oppose each other" as a holding part with an STS path ID corresponding to an Ethernet frame with a VLANID and vice versa.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1 and 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Gonda (US Patent Application Publication # 2003/0056017 A1)** in view of **Zelig et al. (US Patent # 2002/0110087 A1)**.

Regarding **claim 1**, Gonda teaches an interface device (read as translation engine, paragraph [0012], Line 1), comprising an Ethernet frame and a SONET frame convertible interface device (the translation engine performs the function of "translating

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Ethernet frames to SDH/SONET frames and vice versa.”, paragraph [0012], Line 2-3), wherein a 1st holding part (read as buffer (Fig.1 @ 103)) said Ethernet frame and a STS path identifier of said SONET frame are placed opposite each other (the buffer holds “... Ethernet frames. An Ethernet MAC address is provided for a corresponding SDH/SONET TDM slot.”, paragraph [0017], Line 4-6). However, Gonda fails to teach wherein said Ethernet frame of the 1st holding part is coupled with a specific VLAN identifier and a multiplexing part capable of multiplexing an Ethernet frame having said specific VLAN identifier corresponding to said specific STS path identifier that is held by said 1st holding part among a plurality of input Ethernet frame VLAN identifiers.

Zelig et al. teaches a multiplexing part (read as switch labeled “MUX A” (Fig.1 @ 26)) capable of multiplexing an Ethernet frame having said specific VLAN identifier (MUX A “multiplexes ... different Ethernet ports 28 of the switch and having different VLAN addresses 30”, paragraph [0052], Line 10-12) corresponding to said specific STS path identifier that is held by said 1st holding part among a plurality of input Ethernet frame VLAN identifiers (“Switch 26 now registers the requested service in a service table it maintains and sends a signaling message regarding the service ...” (paragraph [0055], Line 1-3) which may contain the type of service (e.g. SONET over MPLS) and/or may contain an “additional index ... to the signaling message to specify the range of VLANs for Ethernet services, or the number of the SONET path for SONET signals at both ends of the connection” (paragraph [0055], Line 16-20)). It would have been obvious to a person of ordinary skill in the art to combine Zelig et al. with Gonda for the purpose of mapping data packets to a STS channel for transmission. The

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motivation to combine is to efficiently map a plurality of Ethernet frames to a one STS signal and vice versa.

Regarding **claim 5**, Zelig, as modified by Gonda, teaches a frame transmission method for frame transmission for an Ethernet frame and SONET frame, comprising: inputting a plurality of Ethernet frames having a specific VLAN identifier among the plurality of Ethernet frames passes through to be multiplexed (MUX A “multiplexes ... different Ethernet ports 28 of the switch and having different VLAN addresses 30”, paragraph [0052], Line 10-12).

**Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Gonda (US Patent Application Publication # 2003/0056017 A1)** in view of **Zelig et al. (US Patent # 2002/0110087 A1)** and further in view of **Kong et al. (US Patent # 2002/0176450 A1)**.

Regarding **claim 2**, and **as applied to claim 1 above**, Gonda, as modified by Zelig et al., teaches the interface device (read as translation engine, paragraph [0012], Line 1), comprising: an Ethernet frame and SONET frame convertible interface device (the translation engine performs the function of “translating Ethernet frames to SDH/SONET frames and vice versa.”, paragraph [0012], Line 2-3) for establishing a 2nd holding part (read as buffer (Fig.1 @ 103)) with a SONET frame specific STS path identifier and an Ethernet frame placed opposite each other (the buffer holds “... SDH/SONET frames. An Ethernet MAC address is provided for a corresponding SDH/SONET TDM slot ...”, paragraph [0013], Line 4-6). However, Gonda fails to teach wherein said Ethernet frame of the 2nd holding part is coupled with a specific VLAN



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identifier and an isolation part that imparts a VLAN identifier corresponding to the STS path identifier that is held by the 2nd holding part to an extracted plurality of Ethernet frames by extracting each Ethernet frame and the SONET frame STS path identifier from a frame originating in SONET frames with a multiplexed plurality of Ethernet frames.

Kong et al. teach mapping mechanisms (Fig.3) wherein said Ethernet frame of the 2nd holding part is coupled with a specific VLAN identifier ("... tagged method of the Ethernet frame using VCL or VLAN tag (see FIG. 6)" (paragraph [0059], Lines 19-21) that is used as an "... index variable in a table that will provide the channel number ..." (paragraph [0062], Lines 13-14)) and an isolation part that imparts a VLAN identifier corresponding to the STS path identifier that is held by the 2nd holding part to an extracted plurality of Ethernet frames by extracting each Ethernet frame and the SONET frame STS path identifier from a frame originating in SONET frames with a multiplexed plurality of Ethernet frames ("...mapping mechanisms in FIG. 3 works for traffic flowing in both directions. The key for the inverse mapping from SONET payload to Ethernet ports is to map SONET signal correctly to a Ethernet port.", paragraph [0062], Lines 1-4). It would have been obvious to a person of ordinary skill in the art to combine Kong et al. with Gonda, as modified by Zelig et al., for the purpose of mapping data packets to plurality of Ethernet frames for transmission. The motivation to combine is to efficiently map a plurality of Ethernet frames to a one STS signal and vice versa.

**Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Goody (US Patent # 7,031,324 B1)** in view of **Gonda (US Patent Application Publication # 2003/0056017 A1)** and further in view of **Zelig et al. (US Patent # 2002/0110087 A1)**.

Regarding **claim 3**, Goody teaches a SONET multiplex isolation device (read as ADM 1 (Fig.1 @ 1A)), comprising: a) a SONET multiplex isolation device with an Ethernet interface device (Fig.2); wherein a SONET interface device (read as Fig.2 @ 320) is established; However, Goody fails to teach wherein the Ethernet interface device establishes a 1st holding part with the Ethernet frame specific VLAN identifier and a SONET frame specific STS path identifier are selectively placed to oppose each other; and a multiplexing part capable of multiplexing an Ethernet frame having a specific VLAN identifier corresponding to the specific STS path identifier that is held in the 1st holding part among an input plurality of Ethernet frame VLAN identifiers.

Gonda teaches an interface device (read as translation engine, paragraph [0012], Line 1), comprising an Ethernet frame and a SONET frame convertible interface device (the translation engine performs the function of "translating Ethernet frames to SDH/SONET frames and vice versa.", paragraph [0012], Line 2-3), wherein a 1st holding part (read as buffer (Fig.1 @ 103)) said Ethernet frame and a STS path identifier of said SONET frame are placed opposite each other (the buffer holds "... Ethernet frames. An Ethernet MAC address is provided for a corresponding SDH/SONET TDM slot.", paragraph [0017], Line 4-6). It would have been obvious to a person of ordinary skill in the art to combine Goody with Gonda for the purpose of mapping data packets to a STS channel for transmission using an ADM. The motivation

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to combine is to efficiently map a plurality of Ethernet frames to a one STS signal and vice versa.

However, Gonda and Goody fails to teach wherein said Ethernet frame of the 1st holding part is coupled with a specific VLAN identifier and a multiplexing part capable of multiplexing an Ethernet frame having said specific VLAN identifier corresponding to said specific STS path identifier that is held by said 1st holding part among a plurality of input Ethernet frame VLAN identifiers. Zelig et al. teaches a multiplexing part (read as switch labeled "MUX A" (Fig.1 @ 26)) capable of multiplexing an Ethernet frame having said specific VLAN identifier (MUX A "multiplexes ... different Ethernet ports 28 of the switch and having different VLAN addresses 30", paragraph [0052], Line 10-12) corresponding to said specific STS path identifier that is held by said 1st holding part among a plurality of input Ethernet frame VLAN identifiers ("Switch 26 now registers the requested service in a service table it maintains and sends a signaling message regarding the service ..." (paragraph [0055], Line 1-3) which may contain the type of service (e.g. SONET over MPLS) and/or may contain an "additional index ... to the signaling message to specify the range of VLANs for Ethernet services, or the number of the SONET path for SONET signals at both ends of the connection" (paragraph [0055], Line 16-20)). It would have been obvious to a person of ordinary skill in the art to combine Zelig et al. with Gonda and Goody for the purpose of mapping data packets to a STS channel for transmission. The motivation to combine is to efficiently map a plurality of Ethernet frames to a one STS signal and vice versa.

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**Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Goody (US Patent # 7,031,324 B1)** in view of **Gonda (US Patent Application Publication # 2003/0056017 A1)** and **Zelig et al. (US Patent # 2002/0110087 A1)** and further in view of **Kong et al. (US Patent # 2002/0176450 A1)**.

Regarding **claim 4**, Goody teaches a transmission system, comprising: a plurality of SONET multiplex isolation devices having Ethernet interface devices and SONET interface devices established (Fig. 1A) and a 2nd SONET multiplex isolation device (Fig. 1A @ 124) among the plurality of SONET multiplex isolation devices with a 2nd holding part with the SONET frame specific STS path identifier and Ethernet frame specific VLAN identifier placed opposite each other (read as Packet over-SONET (POS) mapper/crossconnect (Fig.2 @ 230)). However, Goody fails to teach wherein a 1st SONET multiplex isolation device among the plurality of SONET multiplex isolation devices establishes a 1st holding part with a Ethernet frame specific VLAN identifier and a SONET frame specific STS path identifier placed opposite each other; a multiplexing part that multiplexes a plurality of Ethernet frames having a specific VLAN identifier corresponding to the specific STS path identifier that is held in the 1st holding part among an input plurality of Ethernet frame VLAN identifiers, a 2nd holding part with the SONET frame specific STS path identifier and Ethernet frame specific VLAN identifier placed opposite each other; and an isolation part that imparts a VLAN identifier corresponding to the STS path identifier that is held in the 2nd holding part to each extracted Ethernet frame by extracting each Ethernet frame and the SONET frame STS path identifier from a frame originating in the SONET frame.

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Gonda teaches an interface device (read as translation engine, paragraph [0012], Line 1), comprising an Ethernet frame and a SONET frame convertible interface device (the translation engine performs the function of "translating Ethernet frames to SDH/SONET frames and vice versa.", paragraph [0012], Line 2-3), wherein a 1st holding part (read as buffer (Fig.1 @ 103)) said Ethernet frame and a STS path identifier of said SONET frame are placed opposite each other (the buffer holds "... SDH/SONET frames. An Ethernet MAC address is provided for a corresponding SDH/SONET TDM slot ... " (paragraph [0013], Line 4-6) and "... Ethernet frames. An Ethernet MAC address is provided for a corresponding SDH/SONET TDM slot." (paragraph [0017], Line 4-6)). It would have been obvious to a person of ordinary skill in the art to combine Goody with Gonda for the purpose of holding a STS channel for a corresponding Ethernet frame for transmission using an ADM. The motivation to combine is to efficiently map a plurality of Ethernet frames to one STS signal and vice versa.

However, Gonda and Goody fails to teach wherein said Ethernet frame of the 1st and 2<sup>nd</sup> holding parts are coupled with a specific VLAN identifier and a multiplexing part capable of multiplexing an Ethernet frame having said specific VLAN identifier corresponding to said specific STS path identifier that is held by said 1st holding part among a plurality of input Ethernet frame VLAN identifiers. Zelig et al. teaches a multiplexing part (read as switch labeled "MUX A" (Fig.1 @ 26)) capable of multiplexing an Ethernet frame having said specific VLAN identifier (MUX A "multiplexes ... different Ethernet ports 28 of the switch and having different VLAN addresses 30", paragraph

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[0052], Line 10-12) corresponding to said specific STS path identifier that is held by said 1st holding part among a plurality of input Ethernet frame VLAN identifiers ("Switch 26 now registers the requested service in a service table it maintains and sends a signaling message regarding the service ..." (paragraph [0055], Line 1-3) which may contain the type of service (e.g. SONET over MPLS) and/or may contain an "additional index ... to the signaling message to specify the range of VLANs for Ethernet services, or the number of the SONET path for SONET signals at both ends of the connection" (paragraph [0055], Line 16-20)). It would have been obvious to a person of ordinary skill in the art to combine Zelig et al. with Gonda and Goody for the purpose of mapping data packets to a STS channel for transmission using an ADM. The motivation to combine is to efficiently map a plurality of Ethernet frames to a one STS signal and vice versa.

However, Goody, Gonda, and Zelig et al. fail to teach wherein said Ethernet frame of the 2nd holding part is coupled with a specific VLAN identifier and an isolation part that imparts a VLAN identifier corresponding to the STS path identifier that is held by the 2nd holding part to an extracted plurality of Ethernet frames by extracting each Ethernet frame and the SONET frame STS path identifier from a frame originating in SONET frames with a multiplexed plurality of Ethernet frames. Kong et al. teach mapping mechanisms (Fig.3) wherein said Ethernet frame of the 2nd holding part is coupled with a specific VLAN identifier ("... tagged method of the Ethernet frame using VCL or VLAN tag (see FIG. 6)" (paragraph [0059], Lines 19-21) that is used as an "... index variable in a table that will provide the channel number ..." (paragraph [0062], Lines 13-14)) and an isolation part that imparts a VLAN identifier corresponding to the

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STS path identifier that is held by the 2nd holding part to an extracted plurality of Ethernet frames by extracting each Ethernet frame and the SONET frame STS path identifier from a frame originating in SONET frames with a multiplexed plurality of Ethernet frames ("...mapping mechanisms in FIG. 3 works for traffic flowing in both directions. The key for the inverse mapping from SONET payload to Ethernet ports is to map SONET signal correctly to a Ethernet port.", paragraph [0062], Lines 1-4). It would have been obvious to a person of ordinary skill in the art to combine Kong et al. with Goody, Gonda, and Zelig et al., for the purpose of mapping data packets to plurality of Ethernet frames for transmission using an ADM. The motivation to combine is to efficiently map a plurality of Ethernet frames to a one STS signal and vice versa.

**Conclusion**

6. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

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**Hand-delivered responses** should be brought to

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Alexandria, VA 22314

Any inquiry concerning this communication or early communications from the Examiner should be directed to Salvador E. Rivas whose telephone number is (571) 270-1784. The examiner can normally be reached on Monday-Friday from 7:30AM to 5:00PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Huy D. Vu can be reached on (571) 272- 3155. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

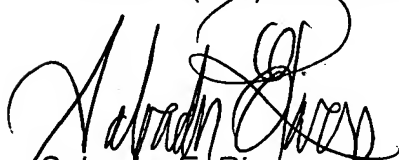
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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.



Salvador E. Rivas  
S.E.R./ser

October 22, 2007



HUY D. VU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600